



ATOPIC ECZEMA/DERMATITIS

GENETIC POLYMORPHISM OF DOCK8, IL17RA AND KLK12 IN KOREANS WITH ATOPIC DERMATITIS AND ALLERGIC MARCH

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Background: Atopic dermatitis (AD) is one of the most common childhood diseases and has a complex etiology involving genetic and environmental factors. Thus, a broad understanding of genetic background is needed for early diagnosis of AD.

Objective: The purpose of this study was to identify of novel candidate functional genetic variants in Koreans with atopic dermatitis and allergic march.

Materials and Methods: Whole-exome sequencing (WES) was performed in 20 AD and 20 AM Korean patients, and 40 Korean personal genome project (KPGP) controls. Sanger sequencing was carried out to validate found variants in 86 AD, 72 AM patients and 81 controls.

Results: Three candidate variants of DOCK8 (rs529208), IL17RA (rs1248468), and KLK12 (rs3745540) were identified. rs529208 had no correlation with the development of AD but the AA genotype of DOCK8 had significantly increased total IgE level. rs1248468 had significantly increased risk of AD and the CA genotype of IL17RA had also increased total IgE level. rs3745540 was significantly associated with AD.

Conclusions: DOCK8 (rs529208), IL17RA (rs1248468) and KLK12 (rs3745540) were deemed functionally interesting based on WES. Our case-control study suggests that the three variants detected in WES may enhance the risk of AD.

Keywords: Allergic march, atopic dermatitis, genetic polymorphism

